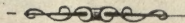


SUPPLEMENT
TO THE
SCIOPTICON MANUAL
FOR 1876-7.



LONDON :
THE SCIOPTICON COMPANY,
157, GREAT PORTLAND STREET, W.

REPORT OF THE

COMMISSIONER OF THE GENERAL LAND OFFICE

The Commission of the General Land Office has the honor to acknowledge the receipt of the report of the Surveyor General of the Territory of New Mexico, dated at Santa Fe, New Mexico, the 1st day of January, 1881, and to inform you that the same has been forwarded to the Department of the Interior, for their consideration.

The Commission of the General Land Office has the honor to acknowledge the receipt of the report of the Surveyor General of the Territory of New Mexico, dated at Santa Fe, New Mexico, the 1st day of January, 1881, and to inform you that the same has been forwarded to the Department of the Interior, for their consideration.

1

THE GENERAL LAND OFFICE

WASHINGTON, D. C.

1881

SUPPLEMENT
TO THE
SCIOPTICON MANUAL
FOR 1876-7.

THE introduction of this instrument a few years ago has done more for the advancement of Science, by educational demonstration, among all classes, than any invention of the present day.

The accompanying List of Colleges, Schools, and Institutes where the instrument has been supplied, fully indorses this statement :—

On board the *Serapis*, during H.R.H.'s visit to India.

Eton College, Windsor.

Harrow Schools.

Owen's College, Manchester.

Manchester Grammar School.

Agricultural College, Chichester.

Charing Cross Hospital.

Manchester Photographic Society.

Liverpool

„ „

Anatomical Institute of—

Würzburg.

Heidelberg.

Freiburg.

Anatomical Institute of—

Giessen.
Erlangen.
Warsaw.

The Physiological Institute of—

Erlangen.
Würzburg.
Munich.
Göttingen.

The Geological Society of—

Vienna.
Erlangen.

The Pharmaceutical Institute of Bonn.

The Physico-medical Institute of Königsberg.

The Polytechnic Institute of—

Carlsruhe.
Pesth.

The Zoological Institute of Vienna.

The Agricultural Institute of Göttingen.

The Industrial Academy of Berlin.

The School for Artisans at—

Berlin.
Brieg.
Cologne.
Fürth.
Landshut.
Mulhouse.
Potsdam.
Remscheid.
Würzburg.

The Gymnasium of—

Berlin.
Elbing.

The Gymnasium of—

Eger.
 Emden.
 Hamburg.
 Hadamar.
 Dantzig.
 Lemberg.
 Meseritz.
 Saratow.
 Speier.
 Zabern.

The Practical Schools of—

Brunn.
 Lemberg.
 Moscow.
 Schwerin.
 Stralsund.
 Carlsruhe.
 Crefeld.
 Chemnitz.
 Greiz.
 Tilburg.

Society of Photography at Berlin.

The Scientific Society of Paderborn.

The Society of Public Instruction at

Sorau.
 Göttingen.
 Demmin.
 Harburg.

Besides the above Public Institutes at home and abroad, the Sciopticon is used by more than 500 Ministers of Religion and Public Lecturers in this country, from many of whom the most satisfactory testimonials have been received.

NOVELTIES.

THE NEW OXYHYDROGEN BURNER,

Constructed especially for the Sciopticon, secured by Letter Patent.

NOTWITHSTANDING the great success which has attended the Sciopticon, with its powerful oil-light, in exhibiting to moderate-sized audiences, occasions sometimes arise where a more powerful light may be required, and to meet this want an exceedingly simple and compact form of oxygen burner has been constructed (possessing many points of novelty) and which takes exactly the position of the present oil-lamp, it being only necessary to remove the deflecting cap and insert the lime-lamp.

To meet the requirements of all, this lamp can be used in either of the following ways ; viz.—

With the alcohol and oxygen, or oxycalcium light.

With the blow-through jet (gases mixed at point of ignition).

With the mixed gases (mixed in passing through the burner).

Jets of all three descriptions are part of the new apparatus.

FIG. 1.

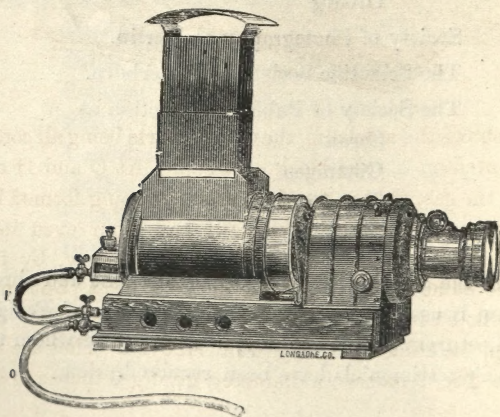


Fig. 1 represents the Sciopticon with the lime-light apparatus arranged in place.

FIG. 2.

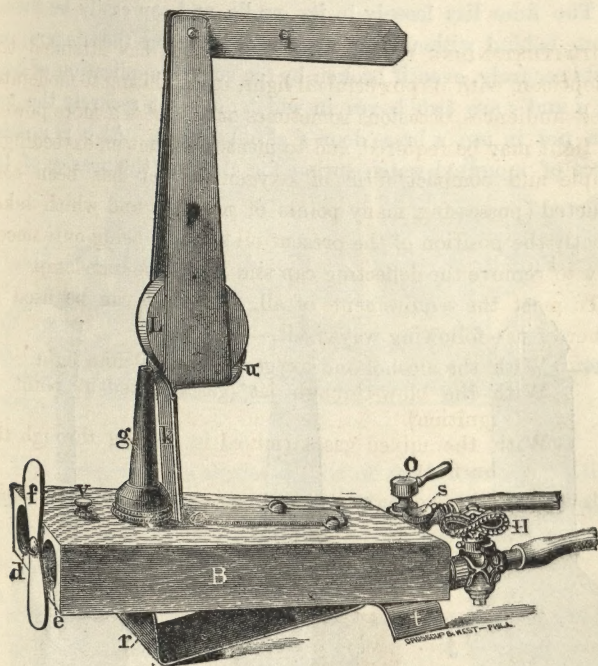


Fig. 2 shows the new lamp, the various parts being all contained and mounted on a solid block of wood. At O and H are the inlets for the gas, the tap for the hydrogen being formed like an ordinary gas-tap, so that no mistake can occur even in darkness. Between the two taps is a milled screw, by turning which the flame is raised or lowered to its right position. The lime L is fitted into its holder and lowered through the opening at the top, the chimney having been removed. They are made in form of a disc, 2 inches in diameter, giving 6 inches of burning

surface to each disc. The gas strikes it from below, so as to give an unobstructed light in the direction of the condensers, the upper part of the disc preventing any light from escaping from above.

The lime lies loosely in its cradle, and can easily be turned from behind without any danger of burning the fingers, and rests securely, even if broken by too sudden application of heat. In *d* and *e* are two boxes in which are kept securely the two jets not in use, a brass door *f* closing them. At *v* is a small piece of mounted watch-spring for cleaning the nozzles of the jets.

FIG. 3.

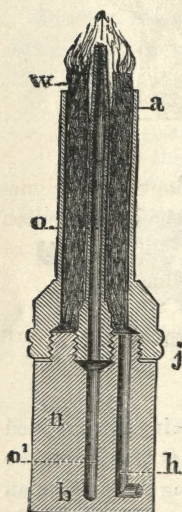


FIG. 4.

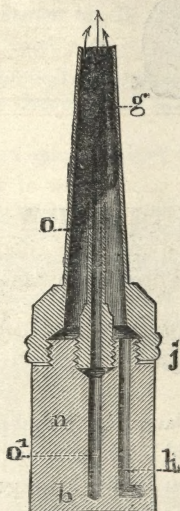
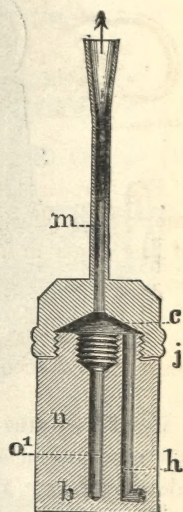


FIG. 5.



These figures show the different jets ; Fig. 3 representing the alcohol flame, which is fed through the gas-tap from a reservoir of alcohol supplied with each lamp ; Fig. 4 represents the blow-through jet ; Fig. 5, the jet for using the mixed gases.

This latter is of course the most dangerous, but not so in the hands of accustomed exhibitors.

FIG. 6.

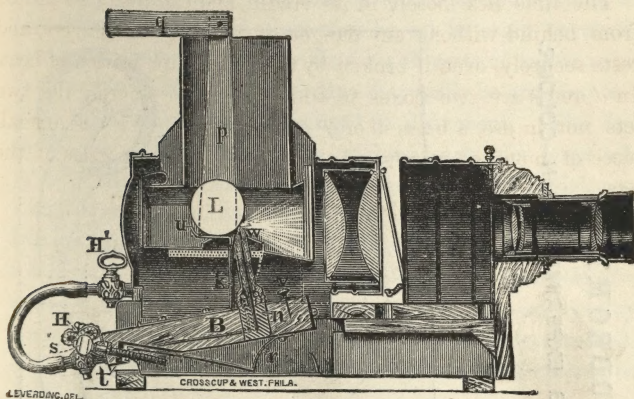


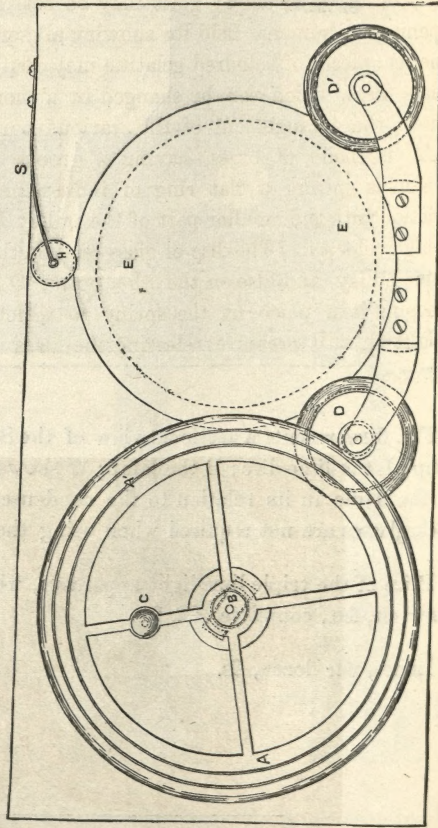
Fig. 6 represents a sectional view of the Sciopticon and lime-lamp; L the lime-disc; B the lamp; W shows the right position of the flame in its relation to the condensers. The front or back glasses are not required when using the lime-light.

Price of the triple lime-light apparatus, with three jets, spirit reservoir, &c., complete, £2. 2s..

Limes, per dozen, 6s.

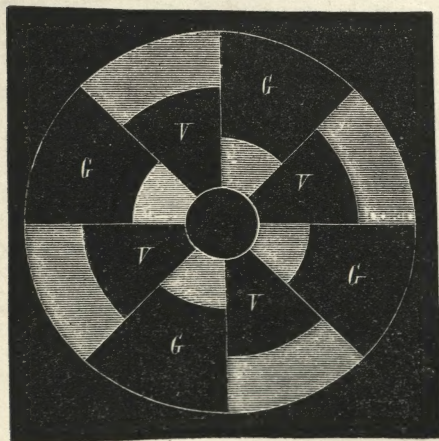
THE CHROMODROME.
 A NEW INSTRUMENT FOR SHOWING EXPERIMENTS IN COLOUR.

FIG. 7.



An instrument to produce a rapid revolution of objects in front of the lantern has long been sought after, but nothing really successful has yet been brought before the public. The instrument shown in Fig. 7 possesses all requirements, as it leaves a perfectly clear disc, and by means of multiplying friction-wheels a circle of glass may be set in rapid revolution, opening an immense field for showing all sorts of colour experiments : pieces of coloured gelatine may easily be attached to the glass discs, which can be changed in a moment. The figure shows the arrangement of the various parts, the large wheel A'A is made of brass, having a groove on its periphery, in which is sprung a flat ring of india-rubber. This gears by friction into the smaller part of the pulley D, and thus gives it a high velocity. The disc of glass rests on the larger part of this same pulley, and also on the other pulley D', the small pulley H keeping it in place by the spring to which it is attached ; a slight upward pressure releasing the glass when required to be

FIG. 8.



changed. By revolving the handle C outside the lantern, a very high rate of speed is communicated to the glass disc.

A few experiments will show what can be done with this instrument :—

- 1st. Seven sectors cut out of gelatine, respectively red, orange, yellow, green, blue, indigo, and violet, will show Newton's colour disc.
- 2nd. Three sections, red, green, and violet, will illustrate Young's theory, producing white light.
- 3rd. By arranging the colours as shown in Fig. 8, the curious effect of green and violet producing blue is shown, the parts marked G being green, those V violet ; the other part being black.
- 4th. A disc carrying equal parts of red and green, showing the production of yellow. This should be arranged same as the last, red being substituted for the violet.
- 5th. A disc of part yellow and part blue, showing that these two colours do not produce green.

Price of the Chromodrome.....	<i>25/-</i>	s. d.
Glass circles (ground edges) for same, each ...	0	6
Coloured gelatine, red, green, yellow, blue, and violet for effects, per sheet	1	0
The Sciopicon Manual (third edition)	1	0